



ELECTRONIC TUBE REFERENCE

24A

Voltage - Tetrode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TETRODE

Indirectly heated screen-grid tetrode chiefly intended for high-frequency receiver amplification, with manufacturer documentation also supporting detector and audio-frequency voltage-amplifier service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	5E	BASE PINS	5
NOMINAL HEATER	2.5 V / 1.75 A	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Tetrode	
PLATE RESISTANCE	600000 Ω
TRANSCONDUCTANCE	0.0010249999999999999 S
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	90 V
<i>Published ratings and characteristics promoted from the approved datasheet.</i>	

Sylvania Type 24A is an indirectly heated screen-grid high-frequency amplifier tetrode, chiefly intended as a replacement tube for older receivers; it may also be used for audio-frequency amplification or detector service.



SOURCE OPERATING CONDITIONS

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1932 Cunningham Radio Tubes

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1932 CUNNINGHAM RADIO TUBES

Section 1 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-plate capacitance	0.01 pF	Published direct interelectrode capacitance



SOURCE OPERATING CONDITIONS

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1937 Raytheon Radio Receiving Tubes

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1937 RAYTHEON RADIO RECEIVING TUBES

Section 1 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Mzzzmg: Maximum Screen Voltage	90 V	Published ratings

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
UUU''' k*'w Grid to Plate	0.007	Published capacitance
Output	10.5	Published capacitance
Plate Voltage	180 V	Published capacitance; Column1
Plate Voltage	25 V	Published capacitance; Column2
Screen Voltage	90 V	Published capacitance; Column1
Screen Voltage	0 V	Published capacitance; Column2
Plate Resistance	0.4	Published capacitance; Column1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	0.6	Published capacitance; Column2
Transconductance	1000 μ S	Published capacitance; Column1
Transconductance	1080 μ S	Published capacitance; Column2
Plate Current	4 mA	Published capacitance; Column1
Plate Current	4 mA	Published capacitance; Column2
Screen Current	1.7 mA	Published capacitance; Column1
Screen Current	1.7 mA	Published capacitance; Column2
Plate Voltage	250 V	Published capacitance
Screen Voltage	20 V	Published capacitance; Column1
Screen Voltage	45 V	Published capacitance; Column2
Plate Current Adjusted to	0.1 mA	Published capacitance
Plate Voltage	180 V	Published capacitance


SOURCE DATA APPENDIX

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193X Cunningham

Published test conditions and operating points. Values on this page are preserved as reported by this source.

193X CUNNINGHAM

Section 1 · Tetrode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	2.5 V	Published nominal
Heater/filament current	1.75 A	Published nominal
Transconductance	1050 μ S	Published characteristic


SOURCE DATA APPENDIX

1940 RCA

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1940 RCA
Section 1 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The	24	The 24-A is a screen-grid amplifier
amplifier in a-c receivers. The	24	amplifier in a-c receivers. The 24-A
HeaTeR VOLTAGE (A. C.or D. C).....oovena e	2.5 V	HeaTeR VOLTAGE (A. C.or D. C).....oovena e 2.5 Volts
HEATER CUBRENT ...oivivvinnnnncnnnennenaneans	1.75 A	HEATER CUBRENT ...oivivvinnnnncnnnennenaneans 1.75 Amperes
PLATE VOLTAGE* coivivieneinneennn	250 V	PLATE VOLTAGE* coivivieneinneennn 180 250 Volts
ScREEN VOLTAGE (Grid No	90 V	ScREEN VOLTAGE (Grid No. 2)..... 90 max. 90 max. Volts
GRD VOLTAGE (Grid No	-3 V	GRD VOLTAGE (Grid No. 1).....ccvnu.s. -3 -3 Volts
PLATE CURRENT ...vviveeceonnnennanans	4	PLATE CURRENT ...vviveeceonnnennanans 4 4 Milliamperes
ScREeN CURRENT (Maximum}	1.7	ScREeN CURRENT (Maximum}..... 1.7 1.7 Milliamperes
AMPLIFICATION FACTOR	630	AMPLIFICATION FACTOR 400 630
* Maximum plate voltage =	275 V	* Maximum plate voltage = 275 volts,
connection, refer to type	24	connection, refer to type 2A5. The screen voltage for the 24-A may be obtained
Ef=	2.5 V	Ef=2.5 VOLTS
SCREEN voLTs =	90 V	SCREEN voLTs =90
PLATE VOLTS	76 V	PLATE VOLTS 92C~S576R3

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE RESISTANCE vvvveeneninnanens	0.6	PLATE RESISTANCE vvvveeneninnanens 0.4 0.6 Megohm

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
TRANSCONDUCTANCE +vvvvuevsoonns eeane	1050 μ S	TRANSCONDUCTANCE +vvvvuevsoonns eeane 1000 1050 Micromhos


SOURCE DATA APPENDIX

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1948 Brimar Radio Valve Manual

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1948 BRIMAR RADIO VALVE MANUAL

Section 1 · Tetrode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	2.5 V	—
HeaterOrFilamentCurrent	1.75 A	—


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1950 Sylvania

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1950 SYLVANIA

Section 1 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	—
Screen Voltage	90 V	—
Screen Current	1.7 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	4 mA	—
Plate Resistance	0.6 Mohm	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	1050 μ S	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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195X General Electric Essential Characteristics

Published test conditions and operating points. Values on this page are preserved as reported by this source.

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Tetrode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	5.3 pF	—
Output capacitance	10.5 pF	—
Grid-to-plate capacitance	0.007 pF	—
Plate resistance	600000 ohm	ClassA; OperatingPoint1
Transconductance	1050 μ S	ClassA; OperatingPoint1

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA; OperatingPoint1
Screen voltage	90 V	ClassA; OperatingPoint1
Control-grid bias	3 V	ClassA; OperatingPoint1
Plate current	4 mA	ClassA; OperatingPoint1
Screen current	1.7 mA	ClassA; OperatingPoint1
Maximum plate voltage	250 V	—
Maximum screen voltage	90 V	—

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

